

JC02 Rec'd PCT/PTO 01 APR 2002

Form PTO-1390 (Rev. 12-29-99)		US DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NO <b>H 4381 PCT/US</b>	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				U.S. APPLICATION NO. (if known see 37 CFR 1.5) <b>10/089651</b>	
INTERNATIONAL APPLICATION NO <b>PCT/EP00/09185</b>		INTERNATIONAL FILING DATE <b>September 20, 2000</b>		PRIORITY DATE CLAIMED <b>September 29, 1999</b>	
TITLE OF INVENTION <b>METHOD FOR PRODUCING A SHOE</b>					
APPLICANT(S) FOR DO/EO/US <b>Uwe FRANKEN</b>					
Applicant herewith submits to the United States Designated/Elected Office (EO/DO/US) the following items and other information:					
1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371. 3. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1). 4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date. 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau) b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US) 6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau) b. <input type="checkbox"/> have been transmitted by the International Bureau c. <input type="checkbox"/> have not been made, however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)) 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)) <u>EXECUTED</u> 10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5))					
Items 11. to 16. below concern other document(s) or information included:					
11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98					
12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.					
13. <input checked="" type="checkbox"/> A FIRST preliminary amendment <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment					
14. <input type="checkbox"/> A substitute specification.					
15. <input type="checkbox"/> A change of power of attorney and/or address letter.					
16. <input type="checkbox"/> Other items or information:					
"Express Mail" mailing label number <u>EL 615775180 US</u>					

Form PTO 1390 (REV 12-29-99) page 2 of 2

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**IC10 Rec'd PCT/PTO 01 APR 2002**  
PATENT  
Docket H 4381 PCT/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re: PCT/EP00/09185

International Filing Date: September 20, 2000

Priority Date: September 29, 1999

Applicant: FRANKEN, et al.

Title: METHOD FOR PRODUCING A SHOE

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents  
Washington, DC 20231

Please enter the amendments below before examining this application on the merits:

IN THE SPECIFICATION:

On page 1, insert below the title:

--CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a U.S. National Stage application under 35 U.S.C. § 371 of International Application No. PCT/EP00/09185, claiming priority under 35 U.S.C. § 365 of PCT/EP00/09185, filed in the European Patent Office September 20, 2000, and under 35 U.S.C. § 119 of DE 199 46 785.4, filed in the German Patent Office September 29, 1999.--

Preliminary Amendment of US National Stage for International  
Application PCT/EP00/09185 filed September 20, 2000

On page 3, after line 24, insert the heading:

--DESCRIPTION OF THE INVENTION--.

IN THE CLAIMS:

Please cancel claims 1-5 without prejudice and enter  
new claims 6-12:

6. A process for manufacturing a shoe or shoe component, comprising the steps of bonding a surface of an upper and a surface of an outer sole with an adhesive, wherein at least one of the surfaces to be bonded is pretreated before application of the adhesive with a plasma jet under normal pressure.

7. The process of claim 6, wherein the plasma jet is linear.

8. The process of claim 6, wherein the plasma jet pretreated surface comprises die-cut ethylene/vinyl acetate foam.

9. The process of claim 8, wherein the plasma jet pretreated surface comprising die-cut ethylene/vinyl acetate foam is pretreated solely with the plasma jet.

10. The process of claim 6, wherein the plasma jet pretreated surface comprises thermoplastic rubber that is optionally preheated before application of the adhesive.

Preliminary Amendment of US National Stage for International Application PCT/EP00/09185 filed September 20, 2000

11. The process of claim 10, wherein the plasma jet pretreated surface comprising thermoplastic rubber is pretreated solely with the plasma jet.

12. The process of claim 6, wherein the plasma jet pretreated surface comprises injection-molded, foamed ethylene/vinyl acetate that has been roughened or swelled mechanically or with a solvent before treatment with the plasma jet.

#### REMARKS

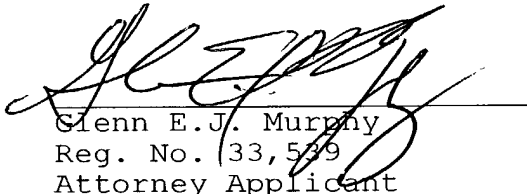
Applicants cancel claims 1-5 without prejudice, and enter new claims 6-12. The subject matter of the new claims is described the specification at page 3, line 25 to page 5, line 19, as well as in the original claims. The specification now includes a cross-reference to related applications and headings appropriate to U.S. practice. No new matter has been added.

The new claims better claim the full literal and equivalent scope and breadth of subject matter disclosed in the application, notwithstanding applicants' belief that the original claims, drafted for examination in the German and European Patent Offices, would have been allowable but for minor matters of form permitted in German or European practice but objected to in the U.S.P.T.O. The new claims find support in the application independent of the original claims and therefore are not believed to constitute narrowing amendments to the original claims within the holding of Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., No. 95-1066 (Fed. Cir. Nov. 29, 2000).

Preliminary Amendment of US National Stage for International  
Application PCT/EP00/09185 filed September 20, 2000

Applicants respectfully request entry of this Amendment  
and examination of the application. If any fees are due to  
enter this paper that have not been accounted for, please  
charge Deposit Account No. 01-1250.

Respectfully submitted,

  
Glenn E.J. Murphy  
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Henkel Corporation  
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## Method for Producing a Shoe

This invention relates to a process for making shoes, more particularly sports shoes (so-called "trainers"), or individual components of shoes in which the components of the shoe, more particularly the upper and the outer sole, are joined together by bonding and at least one of the  
5 surfaces to be bonded is pretreated before application of the adhesive.

In shoe production, many individual components of the shoe are joined together by bonding. This applies in particular to trainers which are made solely by bonding. The bonds, more particularly the adhesive bond between the upper and the outer sole, are exposed to severe stressing in  
10 use and, accordingly, have to satisfy a number of requirements. Thus, they are expected to withstand strong forces during the use of the shoe and to be thermally stable at temperatures of up to about 80°C. High flexibility and hydrolysis stability, i.e. resistance to rainwater from outside and perspiration from inside, are further requirements.

15 A number of different plastics are used in modern shoes. Many of them are difficult to bond with the desired adhesives.

With some of the plastics, bondability is also reduced by the additives of which some migrate from the interior to the surface of the plastic and, in doing so, additionally impair bondability. Such additives  
20 include lubricants, such as fatty acid amides, or the silicone oils or stearates used as mold release agents in the injection molding process. Another reason for the poor bondability of some plastics is to be found in their nonpolar surfaces when a polar adhesive, such as a polyurethane-based adhesive for example, is to be used. It is clear from these few  
25 examples that poor bondability in each of the many combinations of a certain plastic and a certain adhesive can have different causes.

In the prior art, adhesion is improved by pretreating the surfaces to

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be bonded before application of the adhesive. To this end, it is known that the surfaces can be manually or automatically roughened with a milling tool or washed with a solvent and that, in addition, a halogenated substance can be applied and, after drying, reacts with the plastic surface and  
5 modifies it in such a way that better adhesion is achieved. The application of such a primer has many serious disadvantages. The substances are generally hazardous to health so that personnel have to be appropriately protected at considerable expense. Application, drying and reaction take a long time, require special workplaces and are relatively labor-intensive.

10 It is known from French patent application **FR 2 692 276 A1** (Bostik) that a solution of a chlorinated polymer containing an organic titanate can be used as primer. After application, the solution is activated by an energy source which may be ultraviolet radiation, an electron gun or a plasma or a corona treatment. This is intended to produce a reaction between the  
15 primer and the surface of the plastic to improve its adhesion. A particular example cited in the document in question is the bonding of synthetic rubber or elastomers in the shoe industry. The disadvantage of this process is that it again involves the use of a primer with all the attendant disadvantages as mentioned above. This is because adhesion is not  
20 improved by the action of the energy source, but instead by the reaction of the primer with the plastic surface. The energy source merely activates the primer.

It is known that the adhesion of plastic surfaces to be bonded in general can be improved by passing a concentrated plasma jet over the  
25 surface (**EP 0 761 415 A2**, Agrodyn Hochspannungstechnik GmbH). Particular reference is made here to the pretreatment of plastic films. Plastics in general, highly fluorinated polymers, for example PTFE, and metal surfaces, for example aluminium, are mentioned as the surfaces to be treated.

30 The plasma jet mentioned is produced by blowing a working gas,



more particularly air, through an electric arc at normal temperature and pressure. The so-called plasma jet is obtained as the working gas leaves the arc. It is not certain whether this plasma jet is actually a plasma in the true sense, i.e. a gas split at least partly into ions and electrons. However,  
5 it is crucially important that this jet is suitable for the pretreatment of plastic surfaces.

Instead of the concentrated plasma jet mentioned, which enables the surface to be pretreated at particular spots, a number of circularly arranged plasma jets rotating about the centre of the circle may also be  
10 used (**DE 298 05 999 U1**). An annular plasma jet is obtained in this way and may be used to rapidly sweep over and thus pretreat a relatively large surface.

However, if this process is used to bond a typical shoe sole material, i.e. synthetic rubber, adhesion is not significantly improved using the known  
15 process so that the earlier pretreatment processes mentioned above have to be applied.

Accordingly, the problem addressed by the present invention was to save steps in the process mentioned at the beginning while keeping investment costs to a minimum and avoiding the use of solvents as far as  
20 possible. In addition, only the surface to be bonded would be pretreated in the pretreatment and handling would be simple. The pretreatment process would lend itself to continuous and automated operation. The machinery used would take up little space so that existing production lines could easily be modified.

25 According to the invention, the solution to the problem stated above is achieved by the process mentioned at the beginning providing a plasma jet is produced under normal pressure and the surface to be bonded is pretreated with the jet. To this end, the plasma jet is directed onto the surface and, in particular, is moved over the surface.

30 It has surprisingly been found that, with certain sole materials, more

particularly ethylene/vinyl acetate, hereinafter referred to in short as EVA, and thermoplastic rubber, hereinafter referred to in short as TR, such effective pretreatment is possible that there is little, if any, need to use the usual primers. The process according to the invention may be carried out  
5 using the plasma jet described in EP 0 761 415 A2 or in DE 298 05 999 U1.

The linear plasma jet described in DE 298 05 999 U1 is preferably used because, in the pretreatment of outer soles for example, it enables the entire sole surface to be uniformly irradiated without the edges of the  
10 sole being pretreated. If, by contrast, a single fixed plasma jet is used, the surface to be bonded is more locally pretreated.

It is also important in the process according to the invention that only the required part of the surface rather than the entire surface of the workpiece is pretreated. This advantage is particularly apparent in the  
15 pretreatment of outer soles. Since the side edges of the sole are not pretreated, any excess adhesive on those edges may readily be removed after bonding because the edges of the sole show minimal adhesion. This advantage is particularly important where the adhesive is applied by spraying.

20 In a particularly preferred embodiment of the invention, the surface of foamed ethylene/vinyl acetate cut from a block ("diecut EVA") is pretreated exclusively with the plasma jet. It has been found that there is no need for an additional treatment with solvents or primers. After the plasma treatment, the adhesive, for example a reactive hotmelt, can still be  
25 applied after 14 days without any deterioration in the quality of the bond. In a tear test, failure occurs in the ethylene/vinyl acetate and not in the adhesive.

By contrast, in the prior art, the EVA has to be washed or roughened, treated with a primer and dried. If a hotmelt adhesive is used,  
30 the EVA also has to be preheated in a final step. According to the present

invention, these steps are now no longer necessary.

In another preferred embodiment of the invention, the surface of thermoplastic rubber is pretreated solely with the plasma jet and the adhesive is applied to the optionally preheated surface. Preheating of the surface is only necessary where hotmelts are used. Here, the adhesive may be applied immediately after treatment of the surface with the plasma jet because the surface is still warm then. If the adhesive is to be applied later, the surface should be additionally preheated before application. Further pretreatment measures are not necessary.

By contrast, in the prior art, this material has to be treated with a halogenated solvent or a corresponding gas and with a primer containing polyurethane in a solvent.

Finally, in another preferred embodiment, the surface of injection-molded foamed ethylene/vinyl acetate - for the pretreatment - is first roughened mechanically or with a solvent or is made to swell. The surface is then treated with the plasma jet. In this case, the relatively smooth surface has to be partly roughened before the plasma treatment. Organic solvents or alkaline solutions may be used as the solvent. After the plasma treatment, the adhesive, for example the reactive hotmelt, may be applied.

By contrast, in the prior art, the surface has to be washed with a solvent and coated with a UV primer, exposed to UV light and, finally, coated with a primer containing polyurethane in a solvent. According to the invention, no solvent is used and two process steps can be saved.

The invention is illustrated in the following by Examples and Comparison Examples. The process according to the invention was applied to the following exemplary materials, each test being carried out several times.

1 to 3) Various diecut EVA sole materials (manufacturer: Pou Chen) used as middle sole in the manufacture of Nike, Reebok and Adidas trainers.

4) TR sole material (standard test material based on

WO 01/22843

6

PCT/EP00/09185

styrene/butadiene/styrene rubber [SBSR] of the PFI (Prüf- und Forschungsinstitut für die Schuhherstellung e.V.)

5) Foamed injection-molded EVA outer soles (manufacturer: Fu Tai) used in the manufacture of New Balance trainers.

5 Test specimens 120 mm long and 30 mm wide were diecut from these test materials. The surface of the test specimens was pretreated solely by normal-pressure plasma, i.e. was not subjected to any other pretreatment. The PlasmaTreat® plasma pretreatment system (manufacturer: Agrodyn Hochspannungstechnik GmbH) was used. The  
10 treatment was carried out using an RD 1013 rotation unit, an FG 1001 generator and an HTR 2001 high-tension transformer.

Parameters:	voltage:	300 V
	current:	11 A
15	pressure:	2 bar ("working air")

The distance between the surface to be treated and the exit opening of the plasma jet from the RD 1013 rotation unit was 10 mm. Only in the case of the injection-moulded foamed EVA materials was the surface  
20 additionally roughened by abrasion before the plasma treatment in another test.

The test bonding of these pretreated materials was carried out to DIN ES (European Standard) 522 (adhesives for leather and shoe materials, strength of the bonds) and DIN ES 1392 (Solvent-based and  
25 dispersion adhesives, tests for measuring the strength of bonds under defined conditions) against test leather (double chrome leather standard test material of the Satra Institute). The adhesive used was Macroplast QR 8116 (Henkel KGaA), a reactive polyurethane hotmelt specially developed for bonding soles). This adhesive was applied to the entire surface of the  
30 substrates from a slot die, the surface temperature being ca. 60°C, and

was activated, set and pressed to ES 1392.

Bond strength was tested by carrying out peel tests using a PFI tensile tester. To this end, the above-mentioned bonds were clamped in the tester and pulled apart at an angle of 180° and at a speed of 100 mm/min. The forces required for separating the bond in the peel tests were recorded and averaged after the measurement.

The results are set out in the following Table:

No.	Material	Pretreatment	Peel Force	Failure Pattern
1)	Diecut EVA (Nike)	None	< 1 N/mm	Adhesion failure
		Plasma	3.5 N/mm	EVA failure
2)	Diecut EVA (Reebok)	None	< 1 N/mm	Adhesion failure
		Plasma	4 N/mm	EVA failure
3)	Diecut EVA (Adidas)	None	< 1 N/mm	Adhesion failure
		Plasma	3.5 N/mm	EVA failure
4)	TR (PFI test material)	None	1.5 N/mm	Adhesion failure
		Plasma	8-11 N/mm	TR failure
5)	Foamed EVA (New Balance)	None	< 1 N/mm	Adhesion failure
		Plasma	1 N/mm	Adhesion failure
		Roughened + plasma	3.5 N/mm	EVA failure

**CLAIMS**

1. A process for making shoes, more particularly trainers, or individual components of shoes in which the components of the shoe, more particularly the upper and the outer sole, are joined together by bonding  
5 and at least one of the surfaces to be bonded is pretreated before application of the adhesive, characterized in that a plasma jet is produced under normal pressure and the surface to be bonded is pretreated with the jet.
2. A process as claimed in claim 1, characterized in that a linear  
10 plasma jet is used.
3. A process as claimed in any of the preceding claims, characterized in that the surface of foamed ethylene/vinyl acetate cut from a block ("diecut EVA") is pretreated solely with the plasma jet.
4. A process as claimed in claim 1 or 2, characterized in that the  
15 surface of thermoplastic rubber is pretreated solely with the plasma jet and the adhesive is applied to the optionally preheated surface.
5. A process as claimed in claim 1 or 2, characterized in that, for pretreatment, the surface of injection-molded foamed ethylene/vinyl acetate is first roughened mechanically or with a solvent or is made to swell and is  
20 then treated with the plasma jet.

(12) NACH DEM VERTRAG ÜBER DIE INTERNATIONALE ZUSAMMENARBEIT AUF DEM GEBIET DES  
PATENTWESENS (PCT) VERÖFFENTLICHTE INTERNATIONALE ANMELDUNG

(19) Weltorganisation für geistiges Eigentum  
Internationales Büro



(43) Internationales Veröffentlichungsdatum  
5. April 2001 (05.04.2001)

PCT

(10) Internationale Veröffentlichungsnummer  
**WO 01/22843 A1**

- (51) Internationale Patentklassifikation<sup>7</sup>: A43B 9/12, A43D 25/20
- (21) Internationales Aktenzeichen: PCT/EP00/09185
- (22) Internationales Anmeldedatum:  
20. September 2000 (20.09.2000)
- (25) Einreichungssprache: Deutsch
- (26) Veröffentlichungssprache: Deutsch
- (30) Angaben zur Priorität:  
199 46 785.4 29. September 1999 (29.09.1999) DE
- (72) Erfinder; und  
(75) Erfinder/Anmelder (nur für US): FRANKEN, Uwe  
[DE/DE]; Erlenstrasse 30, 41470 Neuss (DE).
- (81) Bestimmungsstaaten (national): BR, CA, JP, MX, TR, US.
- (84) Bestimmungsstaaten (regional): europäisches Patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).
- Veröffentlicht:  
— Mit internationalem Recherchenbericht.
- (71) Anmelder (für alle Bestimmungsstaaten mit Ausnahme von US): HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN [DE/DE]; Henkelstrasse 67, 40589 Düsseldorf (DE).  
Zur Erklärung der Zweibuchstaben-Codes, und der anderen Abkürzungen wird auf die Erklärungen ("Guidance Notes on Codes and Abbreviations") am Anfang jeder regulären Ausgabe der PCT-Gazette verwiesen.

(54) Title: METHOD FOR PRODUCING A SHOE

(54) Bezeichnung: VERFAHREN ZUM HERSTELLEN EINES SCHUHS

(57) Abstract: The invention relates to a method for producing a shoe or individual components of a shoe. According to the inventive method, the components of the shoe are glued together, pre-treating at least one of the surfaces to be glued before applying the adhesive. To this end, a plasma jet is produced under normal pressure and pre-treats the surface to be glued with said plasma jet. The invention provides a means for reducing, at low investment costs, the number of production steps required for producing shoes and, as far as possible, does not utilize solvents. During the pre-treatment only the surface to be glued is pre-treated and the method is easy to perform. The pre-treatment method is carried out in a continuous and automated manner.

(57) Zusammenfassung: In einem Verfahren zum Herstellen eines Schuhs oder einzelner Komponenten eines Schuhs verbindet man die Komponenten des Schuhs durch Kleben miteinander, wobei man mindestens eine der zu verklebenden Oberflächen vor dem Auftragen des Klebstoffs vorbehandelt. Dazu erzeugt man unter Normaldruck einen Plasmastrahl, mit dem man die zu verklebende Oberfläche vorbehandelt. Es werden Arbeitsschritte eingespart, wobei nur geringe Investitionskosten notwendig sind und nach Möglichkeit lösungsmittelfrei gearbeitet wird. Bei der Vorbehandlung werden ausschließlich die zu verklebende Oberfläche vorbehandelt, wobei die Handhabung einfach ist. Das Verfahren zur Vorbehandlung kann kontinuierlich und automatisiert durchgeführt werden.

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Patent and Trademark Office, U S. DEPARTMENT OF COMMERCE

0010/PTO Rev. 6/95	U S. Department of Commerce Patent and Trademark Office	Attorney Docket Number	H 4381 PCT/US	
<h2 style="margin: 0;">DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</h2> <p style="margin-top: 20px;"> <input checked="" type="checkbox"/> Declaration Submitted with Initial Filing           OR           <input type="checkbox"/> Declaration Submitted after Initial Filing         </p>		First Named Inventor	FRANKEN, Uwe	
		COMPLETE IF KNOWN		
		Application Number		
		Filing Date		
		Group Art Unit		
		Examiner Name		

As a below named inventor, I hereby declare that  
My residence, post office address, and citizenship are as stated below next to my name.  
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled.

**METHOD FOR PRODUCING A SHOE**

(Title of the Invention)

the specification of which  
☐ is attached hereto  
 OR  
☒ was filed on (MM/DD/YYYY) 9/20/2000 as United States Application Number or PCT International

Application Number PCT/EP00/09185 and was amended on (MM/DD/YYYY)  (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
199 46 785.4	Germany	9/29/1999	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority sheet attached hereto

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below

Application Number(s)	Filing Date (MM/DD/YYYY)	Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.
		<input type="checkbox"/>

Burden Hour Statement This form is estimated to take 4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231 DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS SEND TO Assistant Commissioner for Patents, Washington DC 20231



Type a plus sign (+) inside this box ☐

H 4381 PCT/US

**DECLARATION****Page 2**

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365© of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code §112.1 acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)
	PCT/EP00/09185	9/20/2000	

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority sheet attached hereto

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith

☐ Firm Name  Customer Number  or label

OR

☒ List Attorney(s) and/or agent(s) name and registration number below

Name	Registration Number	Name	Registration Number
Glenn E. J. Murphy	33,539		
Stephen D. Harper	33,243		
Kimberly R. Hild	39,224		
Steven C. Bauman	33,832		

☐ Additional attorney(s) and/or agent(s) named on a supplemental sheet attached hereto

Please direct all correspondence to: ☒ Customer Number  or label 00423 OR ☒ Fill in correspondence address below

Name	Glenn E. J. Murphy				
Address	Henkel Corporation				
Address	2500 Renaissance Blvd, Suite 200				
City	Gulph Mills	State	PA	Zip	19406
Country	USA	Telephone	610-278-4926	Fax	610-278-6548

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**Name of Sole or First Inventor:** ☐ A petition has been filed for this unsigned inventor

Given Name	Uwe	Middle Initial		Family Name	FRANKEN	Suffix e.g. Jr	
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Inventor's Signature		Date	22.03.2002
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Residence City	Neuss	State	Ger	Country	Germany	Citizenship	Germany
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Post Office Address	Erlenstrasse 30				
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Post Office Address					
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City	41470 Neuss	State		Zip		Country	Germany	Applicant Authority	
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☐ Additional inventors are being named on supplemental sheet(s) attached hereto